# Commercial Microwave—Technical Information

## 120 V, 60 Hz Models

**RFS10SW2 P1324702M RFS12SW2 P1324705M**

- Due to possibility of personal injury or property damage, always contact an authorized technician for servicing or repair of this unit.
- Refer to Service Manual RS2240001 for installation, operating, testing, troubleshooting, and disassembly instruction.
- Refer to Parts Manual RP2240008 for part number information.

**⚠ CAUTION**

All safety information must be followed as provided in Service Manual RS2240001.

**⚠ WARNING**

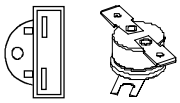
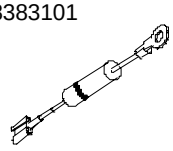
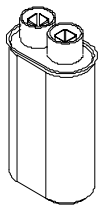
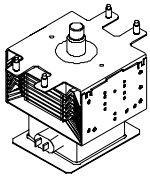
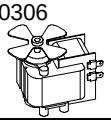
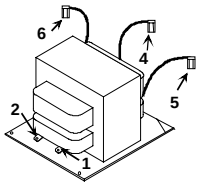
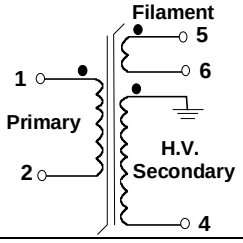
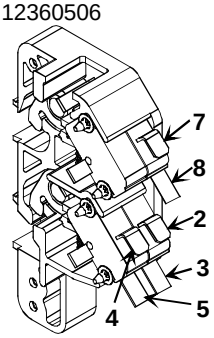
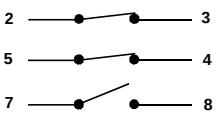
To avoid the risk of electrical shock, personal injury, or death, disconnect power to oven and discharge capacitor before servicing, unless testing requires it.

| Models | RFS10SW2 | RFS12SW2 |
|---|---|---|
| **Power Source** | | |
| Voltage AC | 120 VAC | 120 VAC |
| Amperage (Single Unit) | 20 A | 20 A |
| Frequency | 60 Hz | 60 Hz |
| Single Phase, 3 wire grounded | X | X |
| Receptacle | 5-20R | 5-20R |
| Plug | 5-20P | 5-20P |
| **Power Output** | | |
| Nominal microwave energy (IEC705) | 1000 Watts | 1200 Watts |
| Traditional power test | 900 Watts | 1100 Watts |
| Operating Frequency | 2450 MHz | 2450 MHz |
| **Power Consumption** | | |
| Cook Condition Microwave | 1700 Watts | 2000 Watts |
| **Dimensions** | | |
| **Cabinet** | | |
| Width | 21 5/8” / 54.9 cm | 21 5/8” / 54.9 cm |
| Height | 14 1/8” / 35.9 cm | 14 1/8” / 35.9 cm |
| Depth | 19 13/16” / 50.3 cm | 19 13/16” / 50.3 cm |
| **Oven Interior** | | |
| Width | 13 1/2” / 34.3 cm | 13 1/2” / 34.3 cm |
| Height | 9 1/2” / 24.1 cm | 9 1/2” / 24.1 cm |
| Depth | 15 11/16” / 39.8 cm | 15 11/16” / 39.8 cm |
| **Weight** | | |
| Crated | 68 lbs. / 30.8 kg | 68 lbs. / 30.8 kg |

# Component Testing Procedures

**⚠ WARNING**

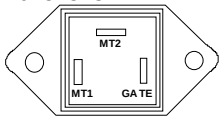
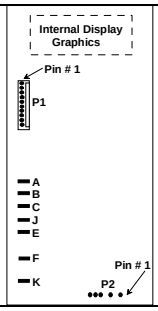
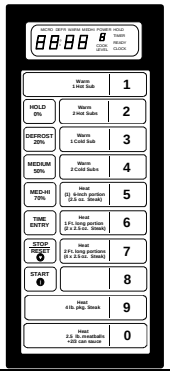
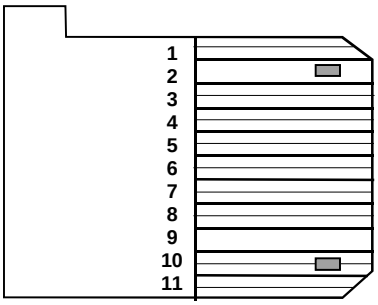
To avoid risk of electrical shock, personal injury, or death, disconnect power to oven and discharge capacitor before servicing, unless testing requires it.

| Illustration | Component | Testing | Results |
|---|---|---|---|
|  | Thermal cutout<br><br>B5795305————————<br>B5684106———————— | Disconnect all wires from TCO.<br>Measure resistance across terminals.<br>Cavity TCO<br>Magnetron TCO | <br><br>Opens at 243°F (117°C)<br>Closed at 180°F (82°C) and open at 280°F (138°C) |
| B8383101<br>  | Diode | **Discharge Capacitor**<br><br>Remove diode lead from capacitor and connect ohmmeter.<br><br>Reverse leads for second test. | Infinite resistance should be measured in one direction and 50KΩ or more in the opposite direction.<br><br>**NOTE:** Ohmmeter must contain a battery of 6 volts minimum. |
|  | Capacitor<br><br>10366919 — RFS10*<br><br>10366908 — RFS12* | **Discharge Capacitor**<br><br>Remove wires from capacitor terminals and connect ohmmeter, set on highest resistance scale to terminals.<br><br>Also check between each terminal and capacitor case. | <br><br>Between Terminals: Meter should momentarily deflect towards zero then return to over 5 MΩ. If no deflection occurs, or if continuous deflection occurs, replace capacitor.<br><br>Terminal to Case: Infinite resistance |
|  | Magnetron<br><br>10489401— RFS10*<br><br>12096201 — RFS12* | **Discharge Capacitor**<br><br>Remove wires from magnetron and connect ohmmeter to terminals. Also check between each terminal and ground. | Between Terminals: Less than 1 Ω<br><br>Each terminal to ground measures Infinite resistance.<br>**Note:** This test is not conclusive. If oven does not heat and all other components test good replace the magnetron and retest. |
| D7670306<br>  | Blower motor | Remove all wires from motor.<br><br>Measure resistance across coil | <br><br>Approximately 14 Ω |
| 10426611 — RFS10*<br>10426612 — RFS12*<br>  | Transformer<br>  | **Discharge Capacitor**<br>Remove all wires from terminals.<br><br>Measure resistance from:<br>Terminal 1 to 2<br>Terminal 5 to 6<br><br>Terminal 4 to Ground screw on transformer stack | <br><br><br>Less than <1 Ω<br>Less than <1 Ω<br><br>Approximately 138 Ω — 10426611<br>Approximately 78 Ω — 10426612 |
| 12360506<br>  | Interlock switch assembly<br>  <br>**After verifing or replacing the module, re-connect wires to switch and check operation of monitor circuit before operating the oven.** | Disconnect wires to switch.<br><br>With door open measure resistance from:<br>Terminal 7 to 8 Monitor<br>Terminal 4 to 5 Primary<br>Terminal 2 to 3 Secondary<br><br>With door closed measure resistance from:<br>Terminal 7 to 8 Monitor<br>Terminal 4 to 5 Primary<br>Terminal 2 to 3 Secondary | <br><br><br>Indicates continuity<br>Infinite Ω<br>Infinite Ω<br><br><br>Infinite Ω<br>Indicates continuity<br>Indicates continuity |

# Component Testing Procedures

**⚠ WARNING**

To avoid risk of electrical shock, personal injury, or death, disconnect power to oven and discharge capacitor before servicing, unless testing requires it.

| Illustration | Component | Testing | Results |
|---|---|---|---|
| B8371401 | Lamp receptacle | Test continuity of receptacle terminals. | Indicates continuity with bulb installed. |
| 10664502 | Lamp 41 W | Measure resistance of filament. | Approximately 28 Ω |
| R0157373<br>  | Triac | Disconnect wires to triac.<br><br>Measure resistance from:<br>MT1 to MT2<br>MT1 to Gate<br>MT2 to Gate<br>All terminals to ground | **Caution - Do not operate oven with wire to terminal MT2 removed.**<br><br><br>Infinite<br>Approximately 40 Ω or more<br>Infinite<br>Infinite |
| 10172901Q<br> | Snubber Assembly | Disconnect wires to snubber.<br><br>Measure resistance across terminals. | <br><br>Infinite |
| | Wire Harness | Test continuity of wires | Indicates continuity |
|  | P.C. board<br><br>RFS10SW2– 12495205Q<br>RFS12SW2– 12495207Q | At 8 pin connector:<br>Pin 1 (black) to Pin 3 (white)<br><br>Relay 1 (cook relay)<br>Terminal F (black) to terminal K (blue)<br><br>Relay 2 (blower relay)<br>Terminal C (black) to terminal J (brown)<br><br>Output drive voltage to triac<br>Triac Gate to T1 | <br>Line voltage input to control transformer<br><br>Cook condition—0 volts<br>Idle condition—Line voltage<br><br>Cook condition—0 volts<br>Idle condition—Line voltage<br><br>Cook condition—0.9 VAC<br>Idle condition—0 volts |
| RFS10SW2 / RFS12SW2<br>R9900591<br>  | Touch panel assembly | Continuity is indicated as 100 Ω and below.<br>  | **Pad** / **Trace** / **Measurement**<br>DEFROST 6 & 7 Continuity<br>MEDIUM 5 & 7 Continuity<br>MED-HIGH 4 & 7 Continuity<br>TIME ENTRY 7 & 8 Continuity<br>STOP/RESET 4 & 8 Continuity<br>START 4 & 9 Continuity<br>HOLD 3 & 8 Continuity<br>X 2 6 & 8 Continuity<br>1 8 & 10 Continuity<br>2 7 & 10 Continuity<br>3 6 & 10 Continuity<br>4 5 & 10 Continuity<br>5 4 & 10 Continuity<br>6 3 & 10 Continuity<br>7 8 & 9 Continuity<br>8 7 & 9 Continuity<br>9 6 & 9 Continuity<br>0 5 & 9 Continuity |

# Component Testing Procedures

**⚠ WARNING**

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## Power Test (Traditional Test Method)

Test equipment required is Amana power test kit R0157397(Fahrenheit), or Menumaster power test kit M95D5 (Celsius).

1. Fill the plastic container to the bottom of the 1000 ml. line with cool tap water.
2. Using the thermometer; stir the water, measure and record the water temperature. **Initial water temperature should be approximately 60°F (20°C).**
3. Place container on the center of the oven shelf and heat the water for 62 seconds.

**NOTE:** Use a watch second hand, not the oven timer.

4. Stir the water, measure and record the temperature of the water after heating time is complete.
5. Subtract the starting water temperature (Step 2), from the ending water temperature (Step 4) to obtain the temperature rise.
6. See the Temperature Chart provided below.

**NOTES:**
- The IEC-705 test method requires precision measurements and equipment. It is not practical to perform the IEC test in the field. To convert the traditional power test results to the approximate IEC-705 rating, take the traditional power test results and add 100 watts per magnetron for the unit being tested.

  **Example:** 930 — watts output using the traditional power test for model RCS10MP
  + 100 — watts (1 magnetrons X 100 watts)
  1030 — Approximate IEC-705 results

- Always perform power test three times for accuracy, changing the water after each test is performed.
- Variation or errors in the test procedure will cause a variance in the temperature rise. Additional power tests should be made if temperature rise appears marginal.
- Low line voltage will cause lower temperature rise.

## Temperature Chart

ONE MINUTE, THREE SECONDS run time chart for units less than 1550 Watts cooking power

| ΔT (°F) | Cooking Power Output | ΔT (°F) | Cooking Power Output | ΔT (°C) | Cooking Power Output | ΔT (°C) | Cooking Power Output |
|---|---|---|---|---|---|---|---|
| 12 | 464 | 22 | 852 | 7 | 490 | 15 | 1050 |
| 13 | 504 | 23 | 891 | 8 | 560 | 16 | 1120 |
| 14 | 542 | 24 | 930 | 9 | 630 | 17 | 1190 |
| 15 | 580 | 25 | 969 | 10 | 700 | 18 | 1260 |
| 16 | 620 | 26 | 1007 | 11 | 770 | | |
| 17 | 659 | 27 | 1046 | 12 | 840 | | |
| 18 | 697 | 28 | 1085 | 13 | 910 | | |
| 19 | 736 | 29 | 1124 | 14 | 980 | | |
| 20 | 775 | 30 | 1162 | | | | |
| 21 | 814 | 31 | 1201 | | | | |

# Wiring Diagram and Schematic

**WARNING**

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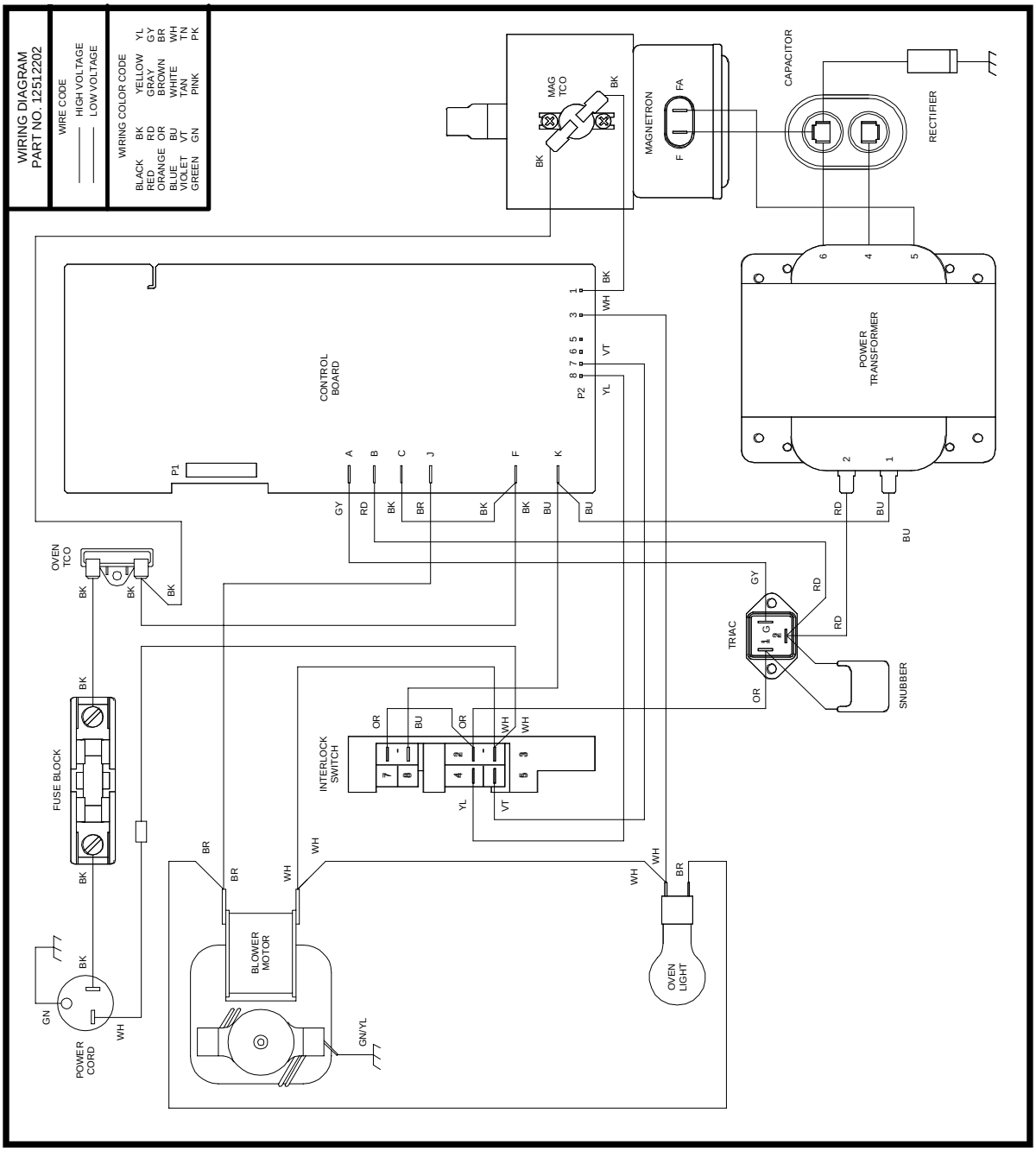


**12512202**

**DANGER**

**HIGH VOLTAGE**

**RFS10SW2 P1324702M** **RFS12SW2 P1324705M**

# Wiring Diagram and Schematic

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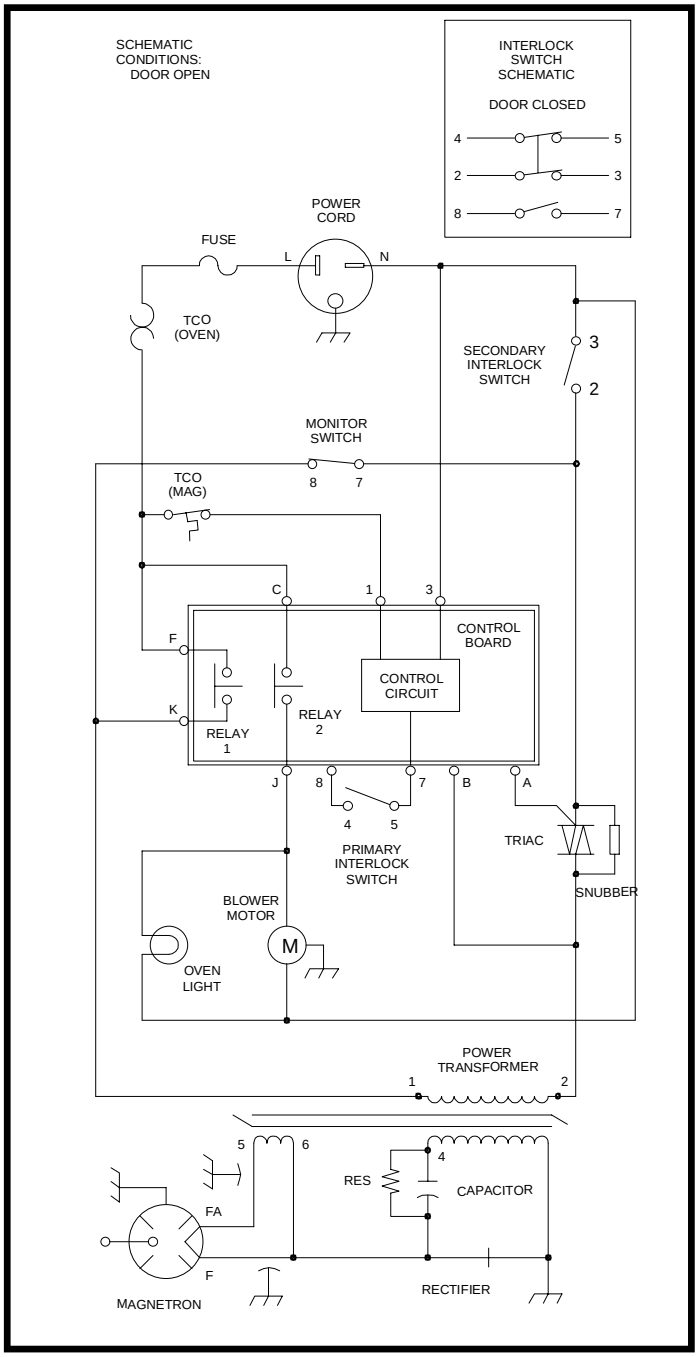


**12512202**

**DANGER**

**HIGH VOLTAGE**

**RFS10SW2 P1324702M RFS12SW2 P1324705M**